

5.—THE WINTER FOODS OF BIRDS IN KASHMIR.

Careful observation from September till March have shown how certain birds live and how certain birds confine themselves to relatively restricted diets.

The following are the commonest foods: rice, plentiful in all rice fields which are fallow and mostly dry and hard during the winter until snow comes—especially plentiful when small stacks have been made before the sheaves are carried to the villages for threshing.

Pulse (*Moong Dhal*), buckwheat and the seeds of various weeds that grow in maize fields—a little wheat from the June harvest and a sort of Canary seed.

The seed of a tall grass that grows plentifully on the lower slopes and amongst scrub and where pine trees are not too thick. This grass is not eaten by animals except the heads, when the seeds are ripe. Its seeds are about $\frac{3}{4}$ of an inch long, very sharp at each end. It is said that in a great famine human beings harvested the seeds and made flour of them. Wheat when being sown during the winter; the seeds of pine trees chiefly *Pinus longifolia*. The leaves of a small shrub, and when the snow is thick, green moss off rocks.

Having regard to the fact that there is rice lying everywhere in the fields it might be imagined that it would be the first favourite but this is not so. *Koulan* (Demoiselle crane) feed largely on rice and at the same time dig up field mice.

Geese leave the sanctuaries and some years feed in the dry rice fields with their heads down, in other years you see practically no geese doing this. It is noteworthy that it is practically impossible to stalk *Koulan* in the fields because of their height combined with their constant vigilance. Geese on the other hand are so busy eating that it is often possible to get close to them, especially to small family parties as opposed to big flocks of 100 or more.

Crows in large flocks get their living in any rice fields for several months. They spend the day in comparatively small flocks, which, just as it is getting dark, collect in the big Chenar trees of villages and then go on to big trees at certain points, when the amalgamation of these units produces enormous flocks that set out to their roosting places in willow copses. They choose young plantations, possibly protected by higher ones from the prevailing wind. An examination of the surface under the crows' roosting places reveals that the ground is thickly covered with droppings in which there is a large proportion of undigested rice grains. Local people will not eat these crows but may eat the kind with 'orange beaks and claws' i.e. Choughs. It was noted that in the Gurdaspur *jheels* of the Punjab in the winter of 1942-43; fishermen made a business of catching crows that came to roost in the high reeds using very light fragile nets on light poles. The birds when disturbed at night fly low along the channels used by boats through the high cover. It was customary to send at least part of the catch to towns for sale. The feeding habits of chukor are the same, and are interesting and vary according to habits of different coveys.

In September and October some chukor, but only a small proportion, come down to the fields as the crops are cut, but soon move up the hills again. It seems that they rely as far as possible on the seeds of the tall grass aforementioned, preferring to pick the seeds off the stalks, especially when knocked down by the passage of herds of sheep and goats. Besides the seeds, they eat the leaves of a small wiry shrub, until they fall in the autumn. By far the greater proportion of chukor rely for their main winter food on the seeds of *Pinus longifolia*, and when the snow comes they still stay, because the seeds are easily visible where they fall from the wet cones on to the snow.

Chukor which live on pine seeds will come downhill a matter of a thousand feet once a day to water, to feed in cultivation, or go to places where they can have a dust bath. Coveys that do this are distinct from those, which for some reason live lower down and do not favour pine seeds. Wheat is undoubtedly the favourite food of chukors—so long as the ground is dry and soft—they will risk anything to get to fields up to the time the grain is well germinated. It has been noted that a great many birds, including ducks and geese, gorge on freshly germinated seeds that sprout in the first winter rains such as the Tre-foil Bur in India—various desert seeds in Iraq, and Persia. This is presumably a craving for vitamins.

It is highly probable that the hill pheasants, like the chukor feed largely on pine seeds for at least part of the year.

One interesting point is that chukors do not seem to be interested in rice as a diet, and do not in consequence come down to rice fields. They have been seen in ground well below rice fields, but no rice has so far been found in the crop of a chukor. This is strange—we know the black partridge is very fond of rice. Is it that the chukor has not a sufficiently good digestion to cope with rice? It has been seen that the crow certainly passes a lot of it whole. Ducks and geese are particularly fond of rice and go long distances to fields where the crop has been devastated by a flood and left unharvested.

In some places very large flocks of pigeons come down from caves in cliff faces and feed in the dry rice fields, often mixed up with the crows so that there are good grounds for the story of the person who shot at a pigeon and killed a crow.

The flight of crows to and from their roosting places is interesting in that they seem to work to a timed plan as regards gradually forming up into enormous flocks, that appear in the falling evening light like a huge piece of chiffon being waved in the sky. A similar sight is the flight of starlings in Iraq to roosting places in the reeds in the marshes. In the Kangra valley the crows ascend in spirals, apparently by gliding at certain fixed points to their roosting places in copses on the face of the Daula Dar Range. It is curious that they should start to go to bed relatively early in the afternoon presumably to make use of radiation in their upward gliding and also to get the sun as long as possible where they roost. Is it a matter of habit that makes them go from, say, 3,000 feet to 7,000 to roost where snow is on the ground at the latter height? The downward flight of crows to their feeding ground is a delightful sight, sometimes by single birds droppin

at a steep angle and at other times by the birds of a big flight suddenly breaking their formation and losing height by a series of fantastic dives at a great speed and in all directions accompanied by a loud noise from the impact of air in their feathers.

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6.—BIRDS OF BOMBAY.

I read with interest in your issue of December 1942, the note by the Bishop of Bombay on the birds of his Malabar Hill garden in Bombay (Vol. xliii, No. 3, p. 525). If space permits, I should like to add some complementary observations on the birds of a very different habitat, situated some three miles away on the opposite side of Back Bay. I refer to the area of open common land and tidal mudflat known as the Colaba Reclamation, now alas owing to wartime exigencies, becoming an increasingly built-up area.

During the months of August, September and November, 1943, this small oasis of nature afforded me many an evening's happy hunting with a pair of binoculars. My reference bible has been Sálím Ali and H. Abdulali's 'Birds of Bombay and Salsette', an invaluable working basis, which I shall hereafter refer to as 'BBS'. These notes are submitted as a further contribution to the facts and figures there recorded.

The half-reclaimed basins of tidal mudflat are first and foremost a refuge and feeding ground for a large assembly of waders, most of which arrived and either settled in or passed through during the period under review. First species to claim mention is the Common Sandpiper. Previous observation in nearly every month of the year confirms that its status is certainly that of resident, though presumably non-breeding. One or more were to be seen on every visit, usually away from the motley throng for the Sandpiper is an individualist who is not confined to the crowded mudflat. In the first half of August the only other true waders seen were a small party, which I doubtfully identified as Grey Plover; they only appeared once. On August 21, the scene had become transformed from one of damp desolation to one of feverish activity, and on August 25, a rough count yielded 180 Sand Plover, 15 Stint, 8 Redshank, 8 Whimbrel, 7 Dunlin, 6 Turnstone, and 2 Greenshank. It was a pleasant surprise to recognise so many old friends often watched in the U.K. It will be noted that the arrival date of Stint is a month ahead of September 25, given as the earliest date in BBS. By the beginning of September, the Stint were as numerous as the Sand Plover and, as far as could be seen, were all *Erolia minuta*; no Temminck's have yet been noted. Dunlin, though noted in BBS as 'uncommon' also became as numerous as the Sand Plover by September 7. The Sand Plover was a new species to me, and as I failed to detect variations in size or plumage with any certainty I presume my notes must refer only to the Pamirs Lesser Sand Plover. They were first observed on August 21, as compared with September 13, given as earliest date in BBS. Throughout September and November (I was away